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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,364	07/15/2003	Kuo-Tso Chen	8309-US-PA-1	1363
31561	7590	09/06/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			GUTIERREZ, KEVIN C	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,364	CHEN, KUO-TSO	
	Examiner	Art Unit	
	Kevin Gutierrez	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/064208.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>Aug. 2, 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8, 10-14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Mei (US 2002/0097495).

Regarding claim 1, Mei discloses

- “a scan light source (38), disposed at a position spaced from a surface of the photoresist on the substrate (subject, 42; [0003], lines 3-4) with a distance, and the scan light source comprising a plurality of point light sources ([0006], lines 5-6); and
- a scan control system (36), converting the pattern into a timing signal to control light and dark status of each of the point light sources at different times ([0031], lines 8-10), the scan control system further allows the substrate exposure apparatus to have a scan function, such that the scan light source scans the photoresist at least once along a scan path for exposure ([0045], lines 2-4).”

Regarding claim 2, Mei discloses “wherein the substrate includes a printed circuit board ([0006], lines 2-3).”

Regarding claim 3, Mei discloses “wherein the substrate includes a wafer ([0006], line 2).”

Regarding claim 4, Mei discloses “wherein the substrate includes various types of package substrates [0006], line 2-3).”

Regarding claim 5, Mei discloses “wherein the point light sources are arranged into one line light source ([0029]).”

Regarding claim 6, Mei discloses “wherein the point light sources are arranged into a plurality of line light sources ([0048], line 9).”

Regarding claim 7, Mei discloses “wherein the line light sources are parallel to each other ([0048], line 9).”

Regarding claim 8, Mei discloses “wherein the point light sources in one of the line light sources has a position shift with respect to the point light source in another line light source along an aligning direction of the point light sources ([0048], lines 14-15), so that the point light sources are staggered to enhance the exposure resolution ([0051], lines 1-2).”

Regarding claim 10, Mei discloses “wherein the scan function is achieved by shifting the scan light source ([0044], lines 3-5; [0048]).”

Regarding claim 11, Mei discloses “wherein the scan function is achieved by shifting the substrate ([0046], lines 1-2).”

Regarding claim 12, Mei discloses “further comprising a chaise (44) to carry the substrate (42).”

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Regarding claim 13, Mei discloses “wherein the scan function is achieved by shifting the chaise ([0046], lines 1-2).”

Regarding claim 14, Mei discloses “further comprising a lens set (40) located along the optical paths between the scan light source (38) and the substrate (42).”

Regarding claim 16, Mei discloses “wherein the scan function is achieved by shifting at least a component in the lens set ([0046], lines 3-4).”

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mei in view of Ulland et al (US 2002/0192569).

Mei discloses all of the claimed limitations except a plurality of point light sources comprising of light or laser emitting diodes.

However, having “wherein the point light sources include either light emitting diodes or laser diodes” is well known to the art as it is evident to the teaching of Ulland et al ([0020], lines 6-7). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the scan light source

elements of Mei by utilizing the light-emitting diode array for at least the purpose of employing a broader range of wavelength exposure.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mei in view of Nishi (6,522,386).

Mei discloses a driver that moves the lens elements of the apparatus. Mei does not disclose “wherein the scan function is achieved by shifting at least a component in the lens set.”

However, performing a scan function by rotating a component of a lens set is known to the art as it is evident by the teaching of Nishi (col. 2, lines 37-41). Thus, it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the lens set of Mei by allowing them to rotate for at least the purpose to adjust aberration characteristics of the projection system.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references each employ the concept of maskless photolithography: Wong et al (6,580,790), Klosner (6,238,852) and Ishikawa (6,251,550).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Gutierrez whose telephone number is (571)-272-

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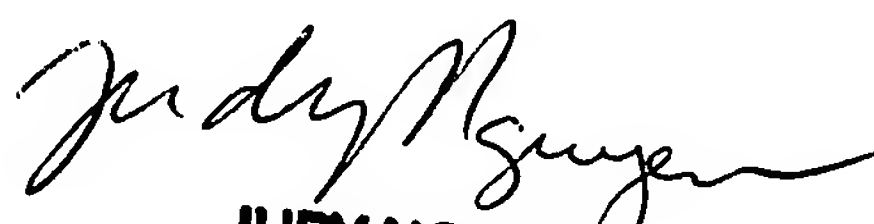
5922. The examiner can normally be reached on Monday-Friday: 7:30 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Gutierrez
Examiner
Art Unit 2851

August 31, 2005


JUDY NGUYEN
SUPERVISORY PATENT EXAMINER